



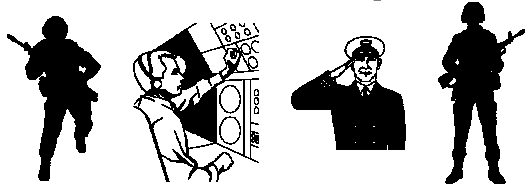
Global Force Management Data Initiative

Army GFM DI Prototype Briefing

**Joint Staff, J-8
21 July 2005**

Bottom Line: Force structure pulls everything together

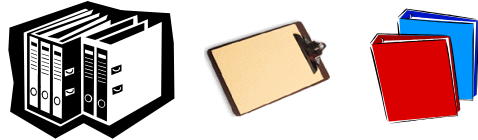
Personnel/Manpower



Resources



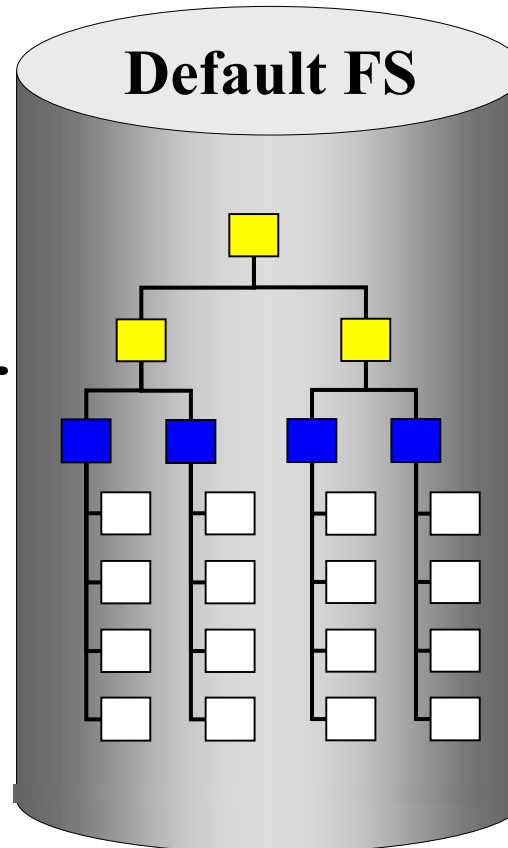
Plans/Readiness



Capabilities

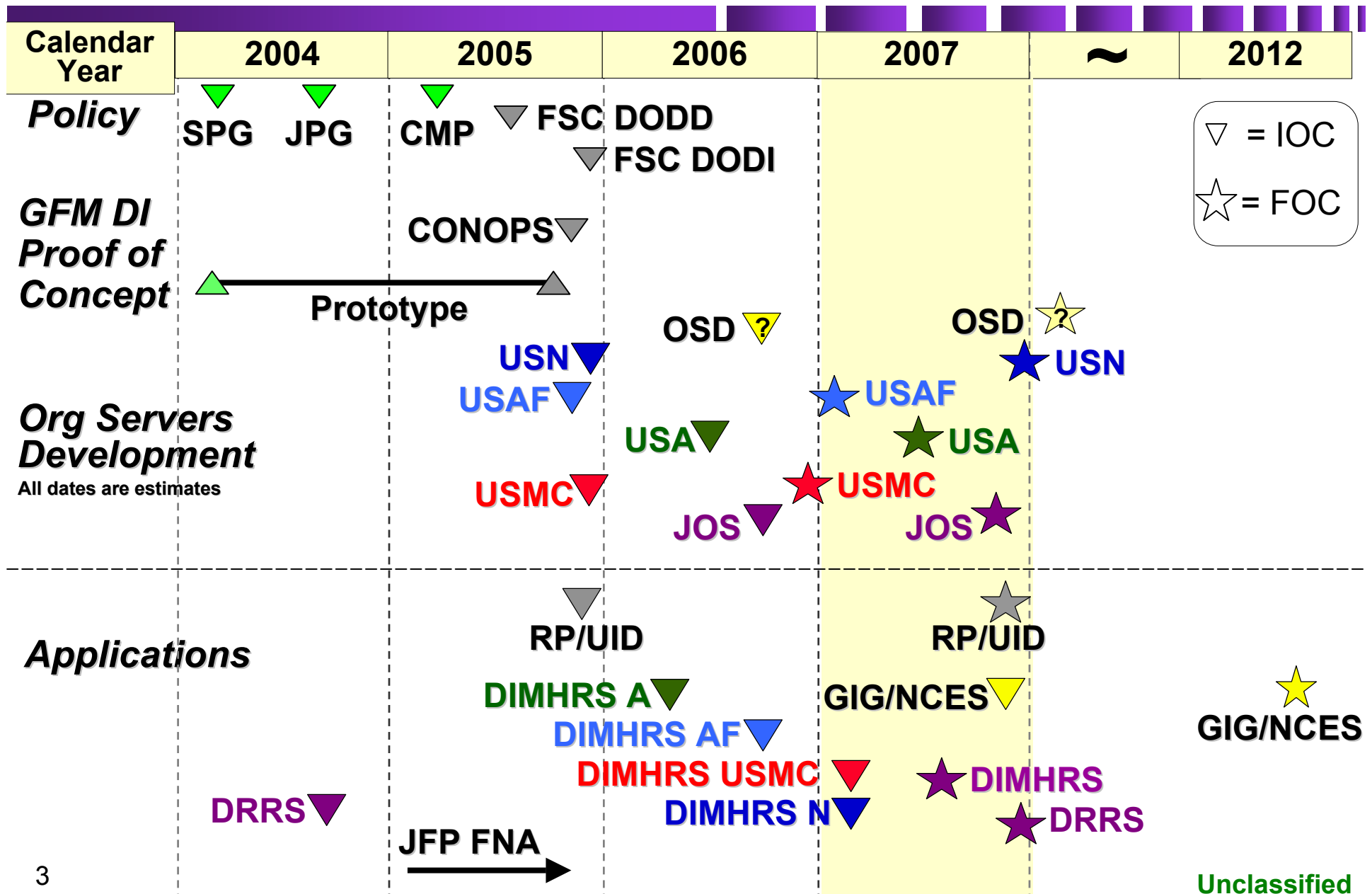
Orders C2 +
Objectives Targeting +

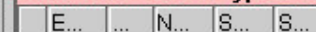
Uses Force Structure (FS) to integrate data



- **Hardcore computer science problem**
 - No “silver bullet”
 - Must create the data
- **Must document all organizations**
 - Administrative
 - Combatant
 - Operational
 - Rigorously reported
 - Starting point for any joint task organization
- **Common identification (XML & FMIDS)**
- **Disseminate from a single authoritative data source**

GFM Data Initiative Long Term View / Related Efforts





Personnel data found in the (Army) "D Troop, 9th Cavalry" MTOE Document

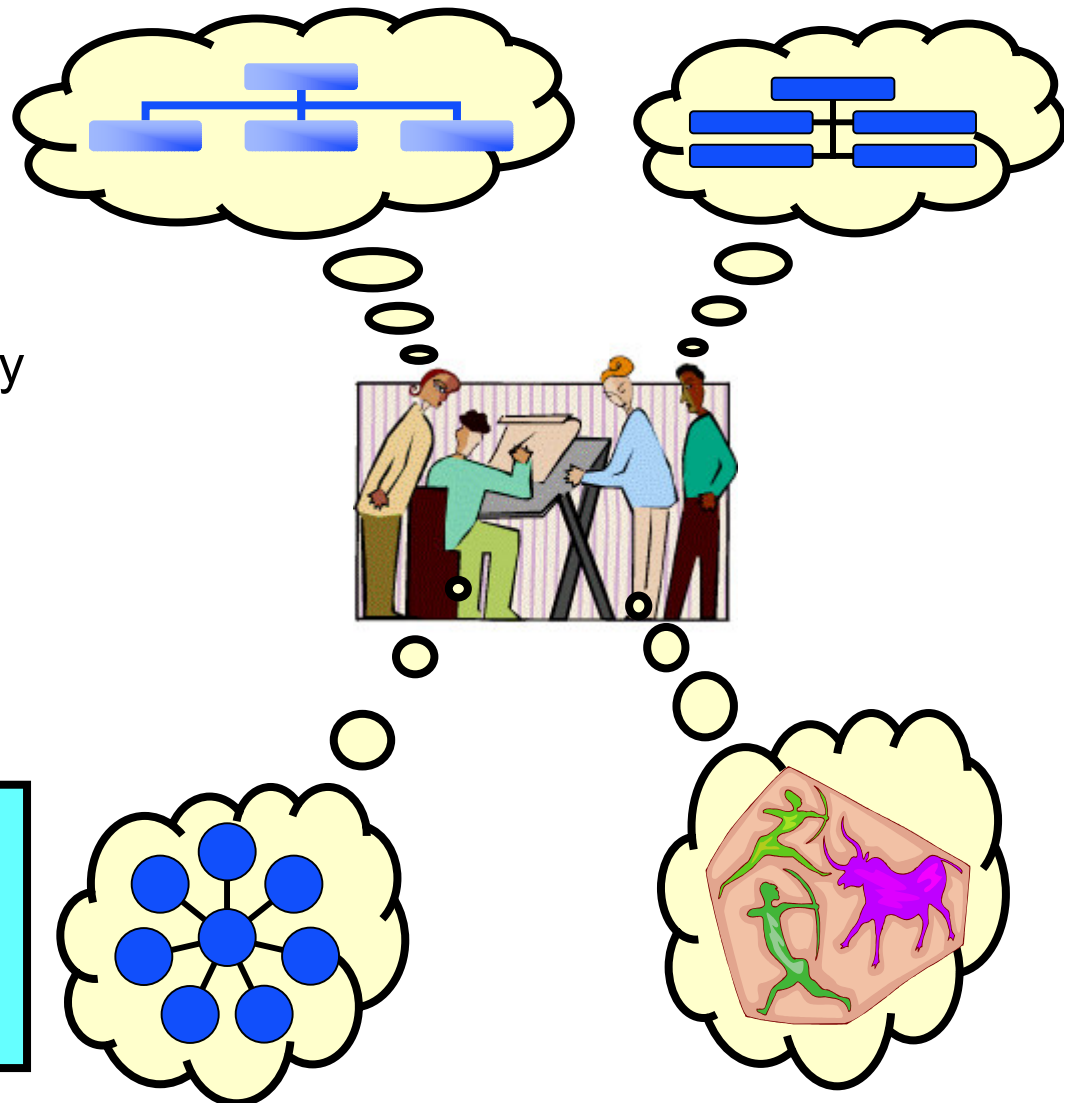
So What Is Missing? ... Semantics

Ask 20 people to draw
their org chart...

How many will be the
same?

- An organization is a virtual entity
- it doesn't physically exist
- There is nothing to ensure
consistency
- Organizations are aggregation
points for People & Equipment

*The OFSC provides the rules,
semantics, and definitions to
provide consistent Force
Structure*

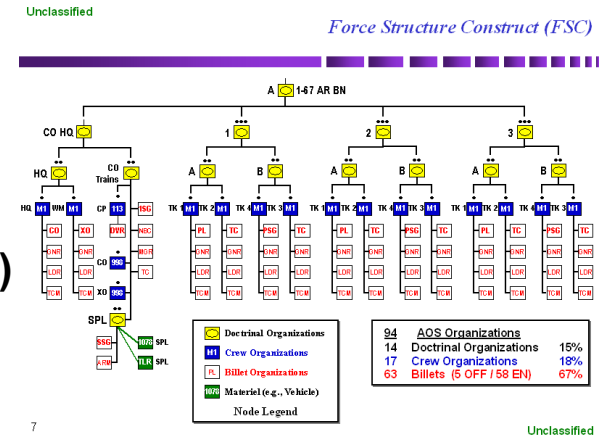


Organizational & Force Structure Construct

Document

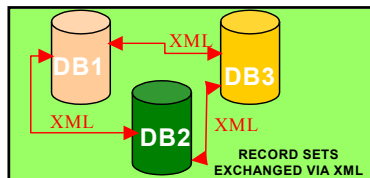
A hierarchical way to organize (document) force structure data for integration across Service-lines

- Top to bottom (billet level) organizations with operational organizational aspects (Tactics, Techniques, and Procedures)
- The **GFMIEDM** provides common semantics and rules
- Documented in an single authoritative data source call the **Organizational Server**.

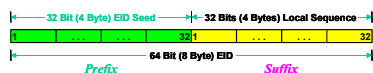


Identify

- XML tagging for web services (e.g., discovery, collaboration, mediation, etc.)

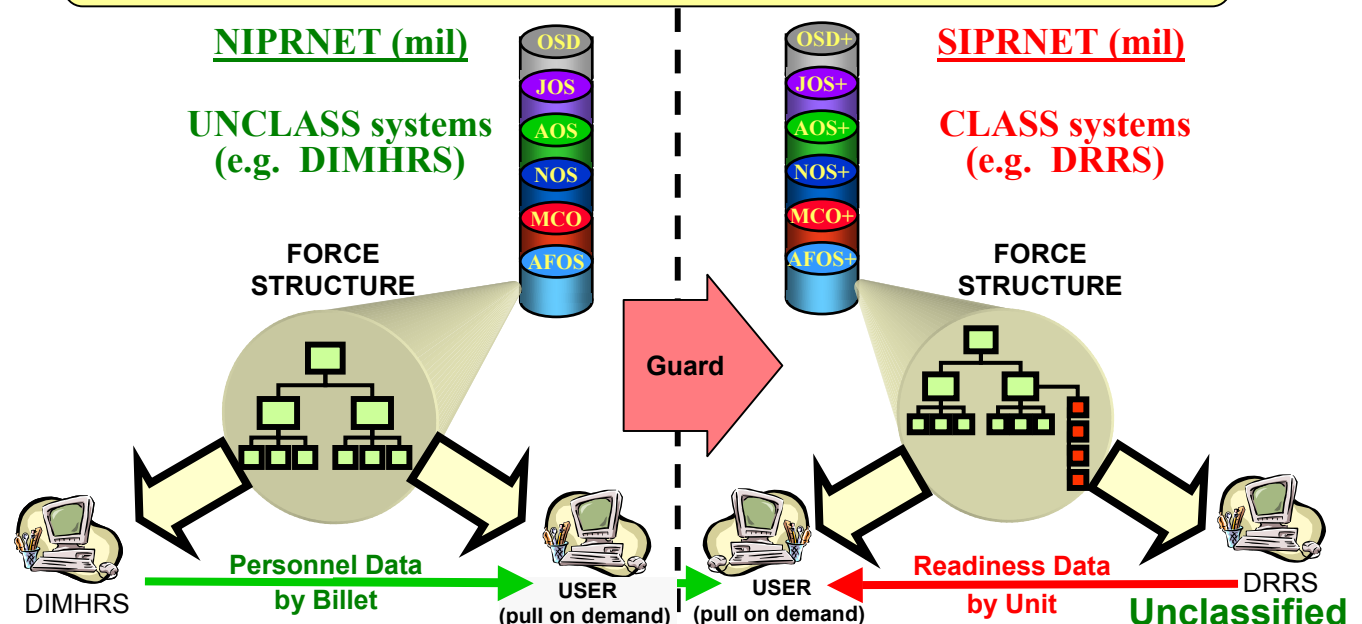



- FMIDS (unique data identifiers) to allow data integration



Disseminate

- Org Servers are the Authoritative Data Source
- Web-service-enabled

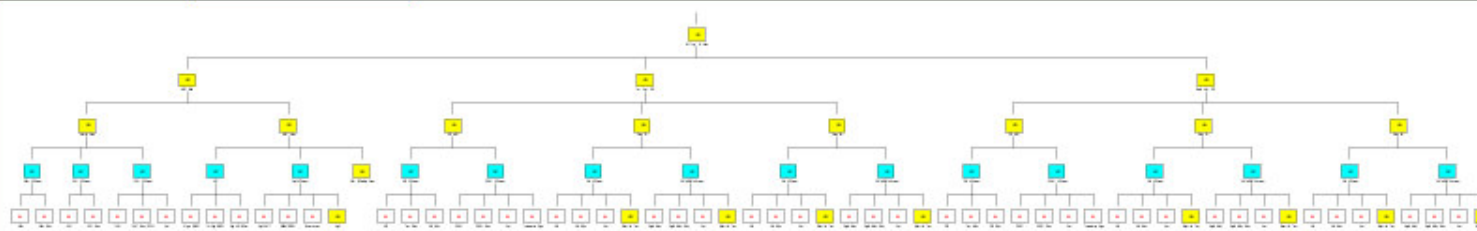


- 
- **Preparing a “Combat Slice” from each of the Services and putting it into GFMIEDM format**
 - Navy – 2nd Expeditionary Strike Group (ESG)
 - USMC – 26th Marine Expeditionary Unit (MEU)
 - Army – 1st Brigade Combat Team, 1st Cavalry Division
 - Air Force – CAF AEW / ISR AEG (AETF)
 - **Simultaneously preparing the Concept of the Operations (CONOPS) in three areas:**
 - Organization Server Operations
 - Allocation, Assignment & Apportionment process
 - GFM in a net-centric environment

Objectives: Define business rules, flush out GFMIEDM, and demonstrate capabilities of GFM DI prototype

Org Type Tree

Organization Tree



This is what the organization looks like in the *Organizational & Force Structure Construct*

- Uses Authorization data as the basis
- Integrates People *and* Equipment into a the organizational structure
- Includes all organizational elements
- Based on fewest changes required by operators

Org Type or Organization

...
-----	-----	-----	-----	-----	-----

Material Type Estab

E...	...	N...	O...	S...
------	-----	------	------	------

--	--	--	--	--

Primary Person Type Estab

E...	...	N...	O...	S...
------	-----	------	------	------

--	--	--	--	--

Additional Person Type Estab

E...	...	N...	O...	S...
------	-----	------	------	------

--	--	--	--	--

D Troop, 9th Cavalry in the Organizational & Force Structure Construct (OFSC)

D Troop, 9th Cavalry is the selected node.

Org Type Tree

Organization Tree

Org Type or Organization

Matériel Type Estab

E... .. N... O... S...

Primary Person Type Estab

E... .. N... O... S...

Additional Person Type Estab

E... .. N... O... S...

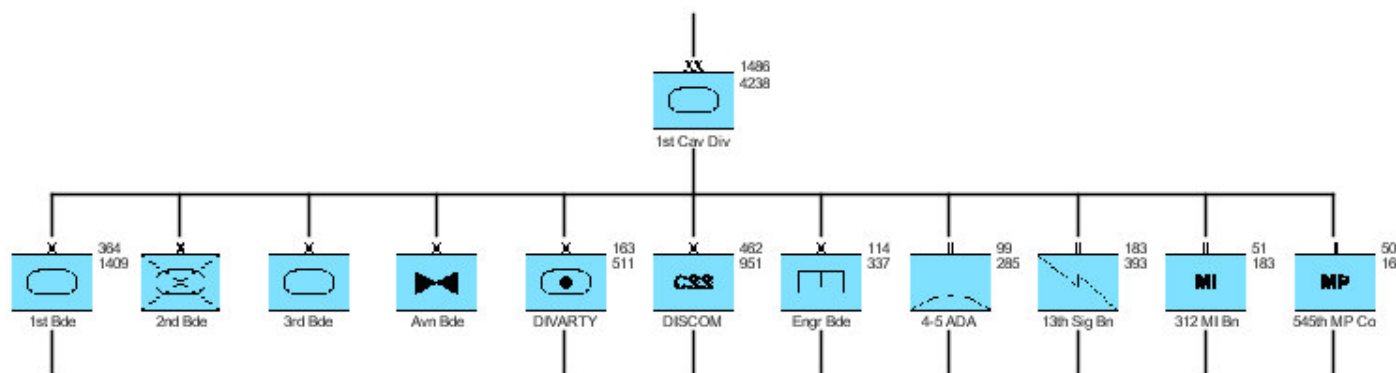
Look
Closer

This represents ~1/2% of the Army (~600Kb)

You must have the cursor over a node to select it.

Org Type Tree

Organization Tree



Organization: Navy Commands

EID	...	N...	O...	C...	
o 010...	1	Nav...	010...	UN	▲
o 010...	1	US ...	010...	UN	■
o 010...	1	US ...	010...	UN	
o 010...	1	US ...	010...	UN	
o 010...	1	Hel...	010...	UN	▼

Materiel Type Estab

E...	...	N...	St...	S...	
o 01...	2	MH...	NA...	MH...	▲
o 01...	4	AV...	NA...	AV...	
o 01...	4	CH...	NA...	CH...	
o 01...	4	AH...	NA...	AH...	
o 01...	10	LC...	NA...	LC...	■
o 01...	12	CH...	NA...	CH...	
o 01...	16	CH...	NA...	CH...	
o 01...	16	Lan...	NA...	LCU	▼

Primary Person Type Estab

E...	...	N...	S...	S...	
o 01...	361	SN ...	NA...	SN ...	▲
o 01...	138	AN ...	NA...	AN ...	■
o 01...	87	EN...	NA...	EN...	
o 01...	80	BM...	NA...	BM...	
o 01...	75	MM...	NA...	MM...	▼

Additional Person Type Estab

EID	...	N...	S...	S...	
o 010...	3	AN...	AD...	DY0	▲
o 010...	1	AP...	SU...	172...	■
o 010...	2	AP...	SU...	170...	
o 010...	2	AS...	AD...	DV4	
o 010...	1	AVI...	AD...	6AB	▼

1st Brigade Combat Team, 1st Cavalry Division w/ symbols
(<http://www.arl.army.mil/~fsbrn/ichart/ichart.html>)

1st Brigade (AR) is the selected node.



IChart



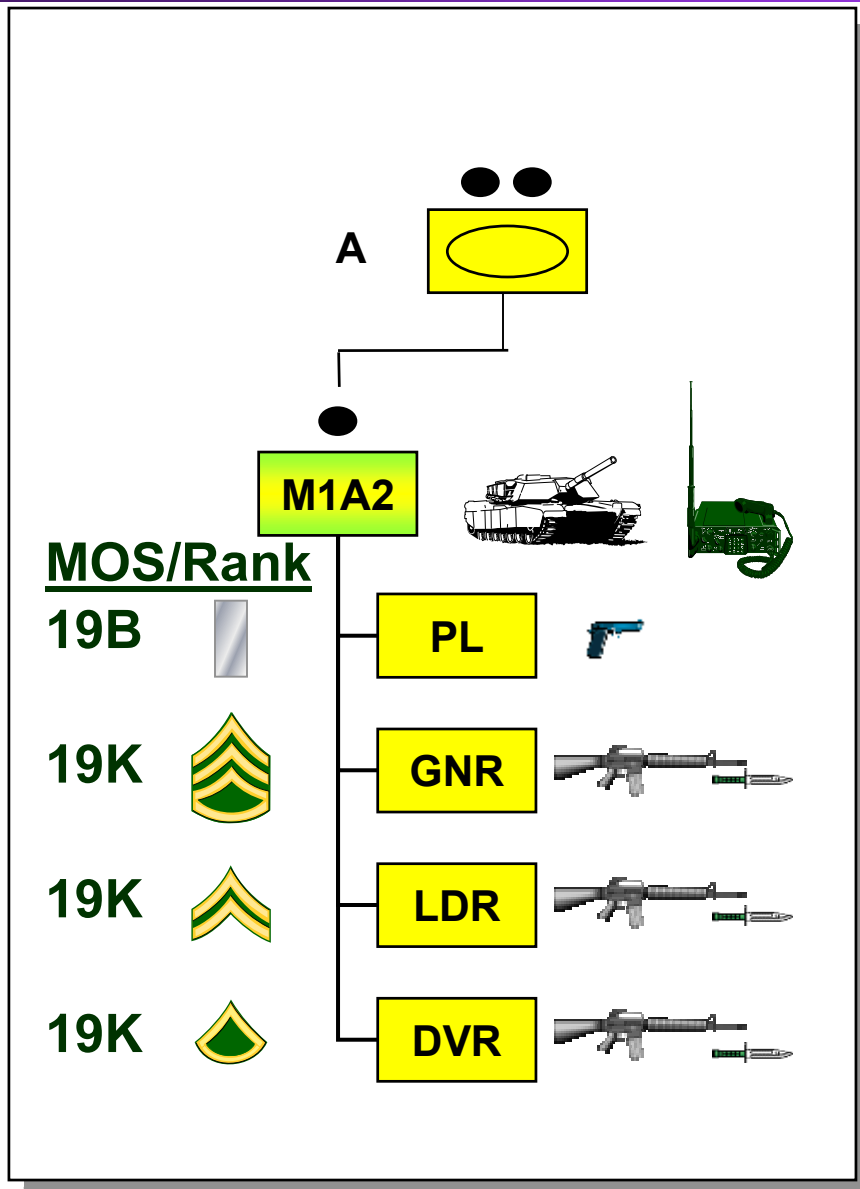
Organization Chart D...



Microsoft PowerPoint ...



11:54



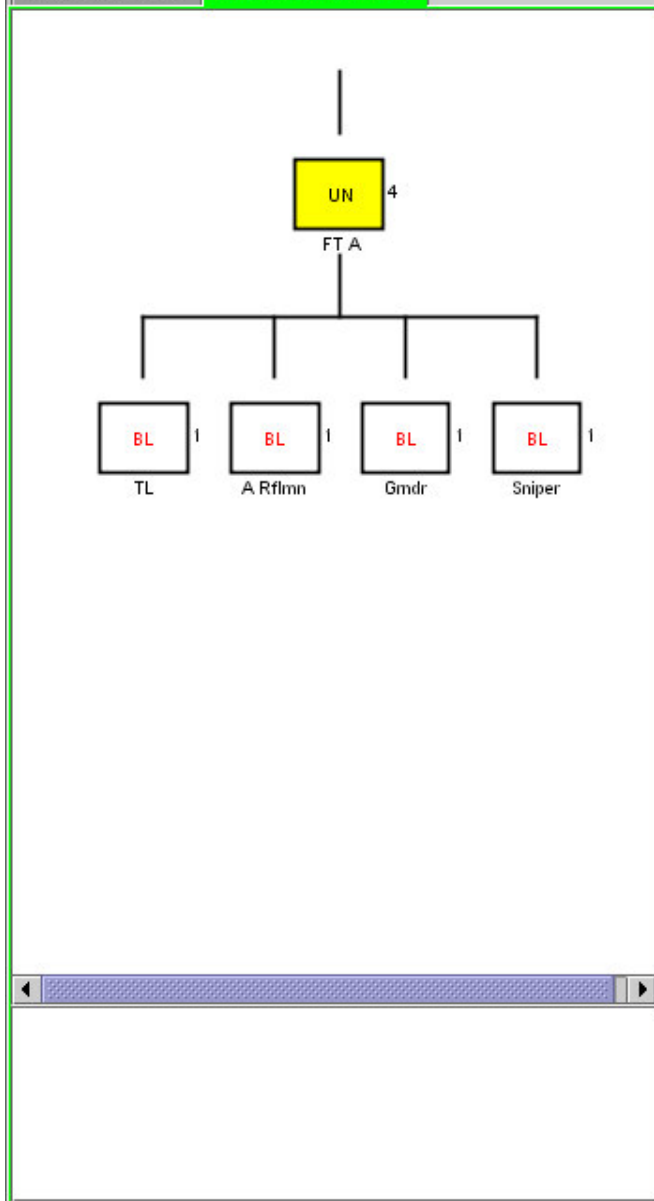
Contains:

- People authorizations
 - Military
 - Civilians (GS, NAF, part-time)
 - Contract work years
- Equipment authorizations
- Home station
- Relationships
- Names
- Definitions

Force Developers maintain the data!

Org Type Tree

Organization Tree



Organization: Fire Team A

	EID	Qty	Name	Obj Type ID	Short Name	Category
o	010...	1	Fire Team A	n/a	A	UN
o	010...	1	Team Leader	n/a	TL	BL
o	010...	1	Automatic Rifleman	n/a	A Rflmn	BL
o	010...	1	Grenadier	n/a	Gmndr	BL
o	010...	1	Sniper	n/a	Sniper	BL
SU...			EX=0	UN=1	CR=0	BL=4

Materiel Type Estab

	...	...	Name	Obj Type ID	Stock #
o	...	4	AIMING LIGHT INFRARED: AN/PAQ-4	010001DE0000523E	A34938
o	...	4	BAYONET MULTIPURPOSE SYSTEM: XM9	010001DE00005288	B49004
o	...	4	SIGHT: REFLEX COLLIMATOR	010001DE00005252	S60288
o	...	3	ADAPTER RAIL: WEAPON MOUNTED M5	010001DE00005282	A13362
o	...	3	RIFLE: 5.56MM M16A4	010001DE000052CC	R97175
o	...	3	MASK CHEMICAL BIOLOGICAL: M40	010001DE000052B8	M12418
o	...	2	MONOCULAR NIGHT VISION DEVICE: AN/PVS-14	010001DE00005246	M79678
o	...	2	NIGHT VISION GOGGLE: AN/PVS-7B	010001DE0000524A	N05482

Primary Person Type Estab

	...	...	Name	Obj Type ID	Skill Attr
o	...	1	11B2G E-5	010001DE00001D5F	ROOT OCCUPATIONAL SPECIALTY
o	...	2	11B10 E-4	010001DE00001577	ROOT OCCUPATIONAL SPECIALTY
o	...	1	11B10 E-3	010001DE00001575	ROOT OCCUPATIONAL SPECIALTY

Additional Person Type Estab

	...	Qty	Name	Obj Type ID	Skill Attr
o	...	1	B4	010001DE0000079B	ADDITIONAL SKILL IDENTIFIER

Fire Team A is the selected node.

PersType: INFANTRY, E-5, SKILL LEVEL 2

Obj Type Estab Ix 010001DE0000157A (72059647032300922)

Establd Obj Type ID **010001DE00001579** INFANTRY, E-5, SKILL LEVEL 2

Cat Code PCG

Effectv Date 1990-01-01

Op Mode Code

Environ Cond Code

Name 11B20 E-5

Owner ID 0

Update Seq Nr 0

Name INFANTRY, E-5, SKILL LEVEL 2

Display Name 11B20 E-5

2525B Symbol

Owner ID 0

Update Seq Nr 0

PERS_TYPE

Cat Code MILTRY

Subcat Code

Rank Code

Skill Ind Code PETYSK

Comment

Owner ID 0

Update Seq Nr 0

PERS_TYPE_SKILL

Skill Att **010001DE00001488** ROOT OCCUPATIONAL SPECIALTY

Skill Att Code 11B20 E-5

SKILLS

PRIMARY OCCUPATION **010001DE00000386** INFANTRYMAN

GRADE **010001DE0000000A** ENLISTED LEVEL 5

RANK **010001DE0000003D** SERGEANT

SKILL **010001DE0000056D** SKILL LEVEL 2

SECONDARY OCCUPATION **010001DE000005C4** NO SPECIAL QUALIFICATIONS

Close

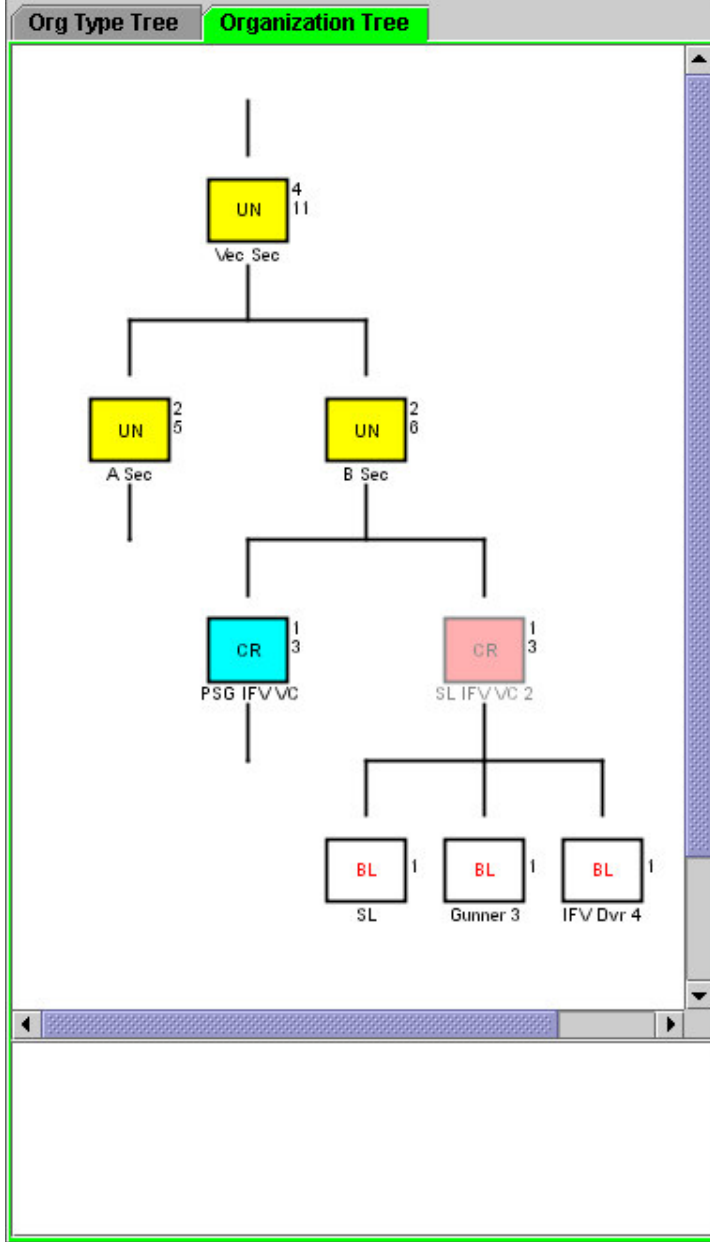
Help		
Name	Org Type Estab	Category
Section	010001DD000138C7	UN
on	0100024400003696	UN
VC	010001DD0001396D	CR
WTO 1	010001DD000139BB	BL
ver 1	010001DD000139C1	BL

Name	Stock # Name	Stock #
NG VEHICLE: ...	US ARMY LINE ITEM ...	F60564
UFLAGE NET S...	US ARMY LINE ITEM ...	C89480
: CHEMICAL A...	US ARMY LINE ITEM ...	A33020
TRANSFER DE...	US ARMY LINE ITEM ...	D78555
NATOR: INFRA...	US ARMY LINE ITEM ...	J03261
CHER GRENAD...	US ARMY LINE ITEM ...	L44031
E SIMULATION...	US ARMY LINE ITEM ...	M51419
NE GUN 7.62 ...	US ARMY LINE ITEM ...	M92420

Name	Skill Attr	Skill Attr Code
TRY, E-5, SKILL ...	ROOT OCCUPATIONA...	11B20 E-5
TRY, E-4, SKILL ...	ROOT OCCUPATIONA...	11B10 E-4
TRY, E-6, SKILL ...	ROOT OCCUPATIONA...	11B30 E-6

Name	Skill Attr	S...
RADIO OPERATOR	PERSONNEL REMARK	04
LEY INFANTRY FIGHTING VE...	ADDITIONAL SKILL IDENTIFI...	J3

Vehicle Section is the selected mode.



Organization: SL IFV VC 2

E...	Qty	Name	Obj Type ID	Short Name	Category
0 01...	1	SL IFV VC 2	n/a	SL IFV VC	CR

Materiel Type Estab

...	...	Name	Obj Type ID	Stock #
...	...	1 FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3	010001DE00004905	F60564
0	...	1 CABLE TELEPHONE: WD-1/TT DR-8 1/2 KM	010001DE0000525E	C68719
0	...	2 CAMOUFLAGE NET SYSTEM RADAR SCATTERING: AN/USQ-159	010001DE0000528C	C89480
0	...	1 DATA TRANSFER DEVICE: AN/CYZ-10	010001DE00005268	D78555
0	...	1 LAUNCHER GRENADE ARMAMENT SUBSYSTEM: M257	010001DE000052BA	L44031
0	...	1 MACHINE GUN 7.62 MILLIMETER: FIXED RH FEED	010001DE000052BE	M92420
0	...	2 NIGHT VISION GOGGLE: AN/PVS-7B	010001DE0000524A	N05482
0	...	1 NAVIGATION SET SATELLITE SYSTEMS:	010001DE00005238	N95862

Primary Person Type Estab

...	...	Name	Obj Type ID	Skill Attr
-----	-----	------	-------------	------------

Additional Person Type Estab

...	Qty	Name	Obj Type ID	Skill Attr
-----	-----	------	-------------	------------

SL IFV VC 2 is the selected node.

MatType: FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3

Obj Type Estab Ix 010001DE00005219 (72059647032316441)

Establd Obj Type ID **010001DE00004905** FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3

Cat Code

Effctv Date 1990-01-01

Op Mode Code

Environ Cond Code

Name FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3

Owner ID 0

Update Seq Nr 0

Obj Type ID 010001DE00004905 (72059647032314117)

Cat Code MA

Dummy Ind Code NO

Name FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3

Display Name M2A3

2525B Symbol

Owner ID 0

Update Seq Nr 0

MAT_TYPE

Cat Code EQ

Reportable

Stock # Name US ARMY LINE ITEM NUMBER

Stock # Text F60564

Max Height 0.0

Max Length 0.0

Max Width 0.0

Supply Class Code CLS2

MEI Indicator Code YES

Owner ID 0

Update Seq # 0

EQPT_TYPE

Cat Code LNDWEP

Abbrev Name

Close

OW

Help

	Name	Org Type Estab	Category
1	SL IFV VC 2	01000244000036AB	CR

	Name	Stock # Name	Stock #	
1	FIGHTING VEHICLE: ...	US ARMY LINE ITEM ...	F60564	▲
1	CABLE TELEPHONE: ...	US ARMY LINE ITEM ...	C68719	
2	CAMOUFLAGE NET S...	US ARMY LINE ITEM ...	C89480	
1	DATA TRANSFER DE...	US ARMY LINE ITEM ...	D78555	
1	LAUNCHER GRENAD...	US ARMY LINE ITEM ...	L44031	
1	MACHINE GUN 7.62 ...	US ARMY LINE ITEM ...	M92420	
2	NIGHT VISION GOGG...	US ARMY LINE ITEM ...	N05482	
1	NAVIGATION SET SAT...	US ARMY LINE ITEM ...	N95862	▼

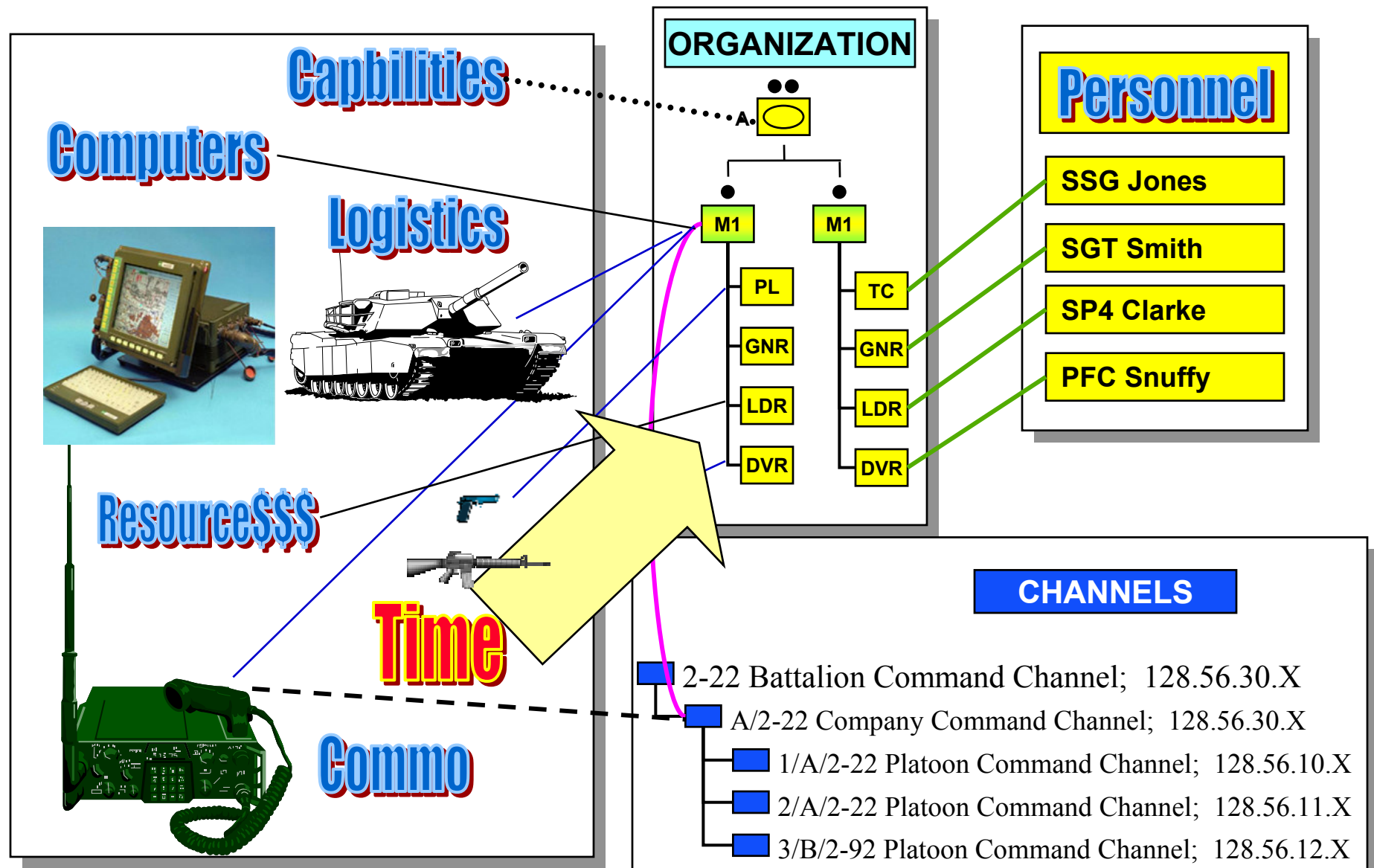
	Name	Skill Attr	Skill Attr Code
--	------	------------	-----------------

	Name	Skill Attr	Skill Attr Code
--	------	------------	-----------------

art D...

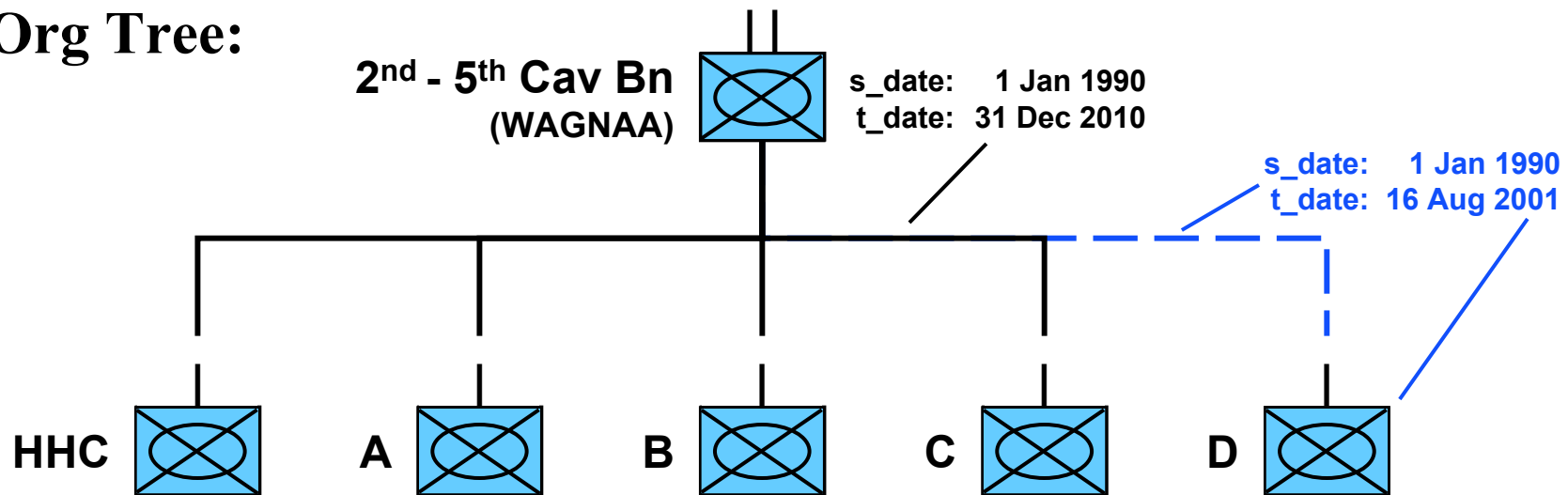
19:39

SL IFV VC 2 is the selected node.



Examples: Org Tree with Times

Org Tree:



Transition from L-Series to F-Series Structure on 17 Aug 2001

Time is REAL time – it represents an Effective Date (EDATE)

Date/Time Group

Year

Month

Day

2001

8

16

Keep Changes

Cancel

64): armynavychart3 @ 2001-08-16 Sam = 01000000

Show

Help

```

graph TD
    Root["123  
699  
2-5 Cav (MX)"]
    Root --- BnHQ["18  
69  
Bn HQ"]
    Root --- HQCo["29  
90  
HQ Co"]
    Root --- ACo["19  
135  
A Co"]
    Root --- BCo["19  
135  
B Co"]
    Root --- CCo["19  
135  
C Co"]
    Root --- DCo["19  
135  
D Co"]
    BnHQ --- BnHQSub[" "]
    HQCo --- HQCoSub[" "]
    ACo --- ACoSub[" "]
    BCo --- BCoSub[" "]
    CCo --- CCoSub[" "]
    DCo --- DCoSub[" "]
  
```

Organization: 2nd Battalion, 5th Cavalry

Qty	Name	...	...
1	2nd Battalion, 5th ...	0...	UN
1	Battalion Headqua...	0...	UN
1	Command Section	0...	UN
1	Commander	0...	BL
1	Executive Officer	0...	BL

Materiel Type Estab

Qty	Name	...	...
551	BAYONET MULTIP...	U...	B...
497	SIGHT: REFLEX C...	U...	S...
417	ADAPTER RAIL: W...	U...	A...
417	RIFLE: 5.56MM M1...	U...	R...
347	AIMING LIGHT INF...	U...	A...
333	NIGHT VISION GO...	U...	N...
299	MASK CHEMICAL ...	U...	M...
252	MASK CHEMICAL ...	U...	M...

Primary Person Type Estab

Qty	Skill Attr Code
246	11B10 E-4
96	11B10 E-3
67	11B20 E-5
52	11B30 E-6
36	11B2G E-5

Additional Person Type Estab

Qty	Skill Attr Code
123	04
90	12
42	11
42	2C
30	3X

2nd Battalion, 5th Cavalry is the selected node.

start

IChart

Organization Chart D...

Microsoft PowerPoint ...

11:18

Date/Time Group

Year

Month

Day

2005

7

18

Keep Changes

Cancel

64): armynavychart3 @ 2005-07-18 Mike = 01000050

Show

Help

104
564

2-5 Cav (MX)

18
69

Bn HQ

29
90

HQ Co

19
135

A Co

19
135

B Co

19
135

C Co

2nd Battalion, 5th Cavalry

Qty	Name
1	2nd Battalion, 5th Ca...
1	Battalion Headquarte...
1	Command Section
1	Commander
1	Executive Officer

Materiel Type Estab

Qty	Name
416	BAYONET MULTIPU...
374	SIGHT: REFLEX CO...
314	ADAPTER RAIL: WE...
314	RIFLE: 5.56MM M16A4
261	AIMING LIGHT INFR...
251	NIGHT VISION GOG...
227	MASK CHEMICAL BI...
189	MASK CHEMICAL BI...

Primary Person Type Estab

Qty	Skill Attr Code
186	11B10 E-4
74	11B10 E-3
51	11B20 E-5
39	11B30 E-6
27	11B20 E-5

Additional Person Type Estab

Qty	Name
1	ALSO INFORMATIO...
1	POSTAL OPERATIO...
1	ALSO OPSEC OFFI...
1	M1A2 ABRAMS TANK
1	ALSO EDUCATION ...

2nd Battalion, 5th Cavalry is the selected node.

start

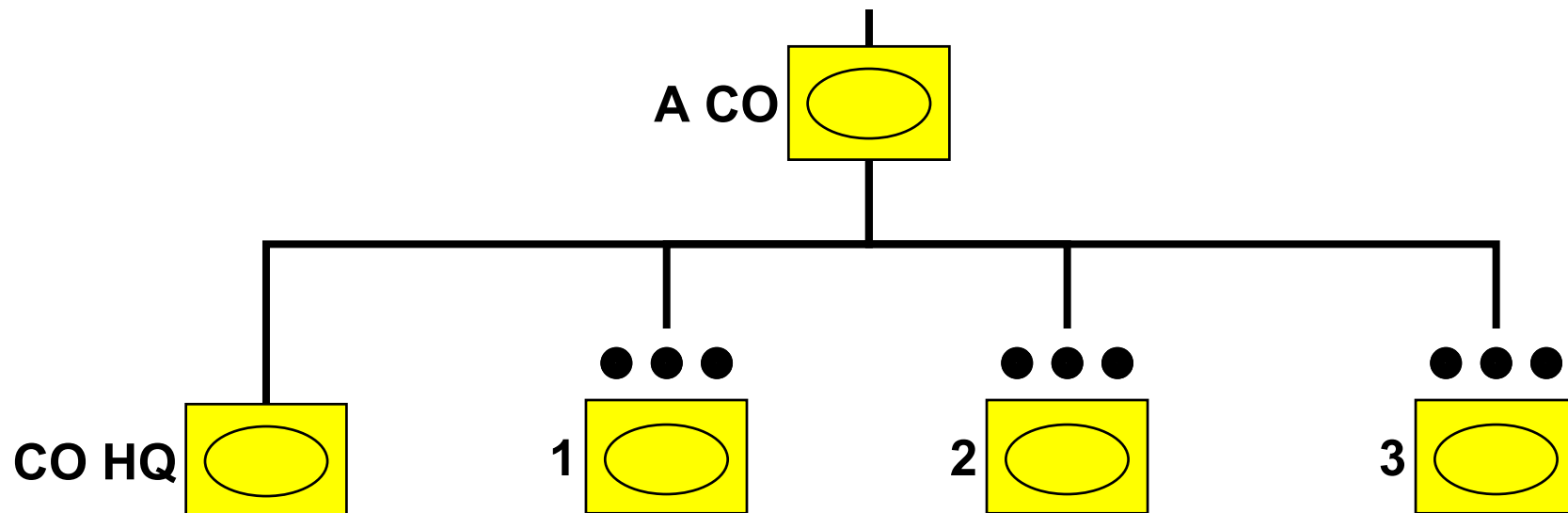
IChart

Organization Chart D...

Microsoft PowerPoint ...

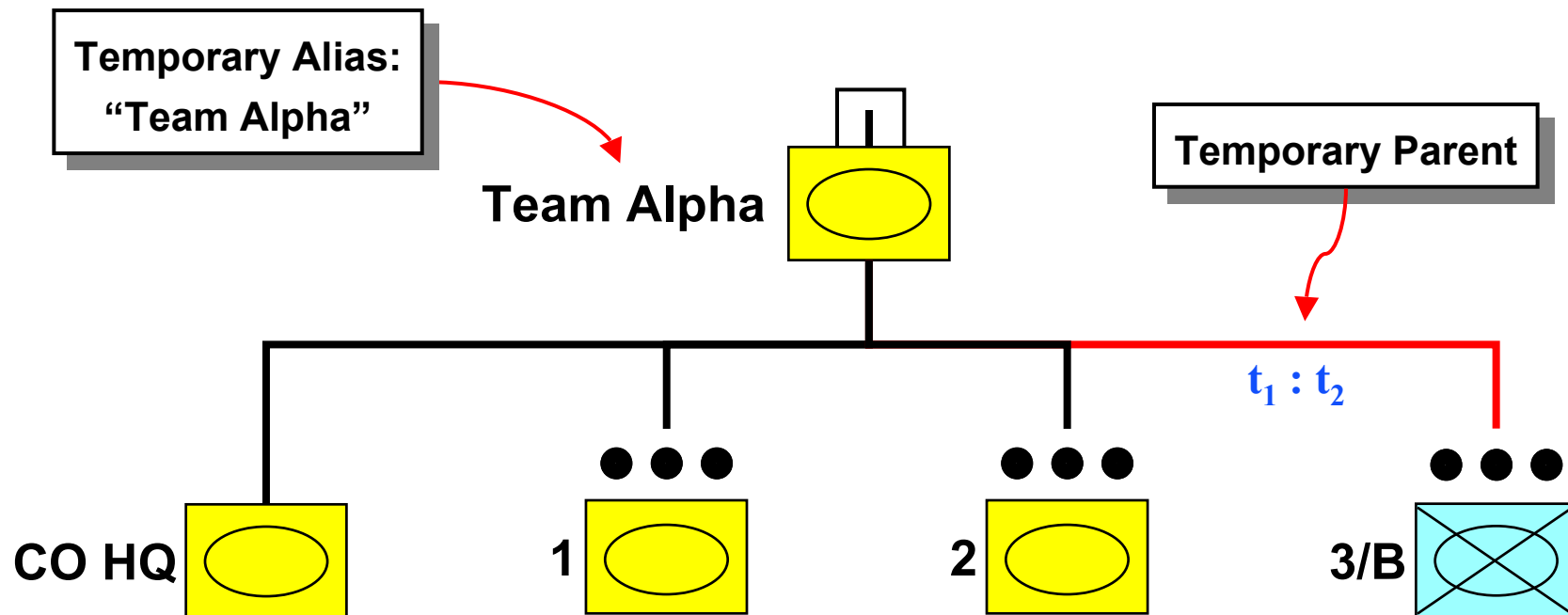
12:09

Reconfiguring a Default Force Structure:



Stable Nodes - Dynamic Links.

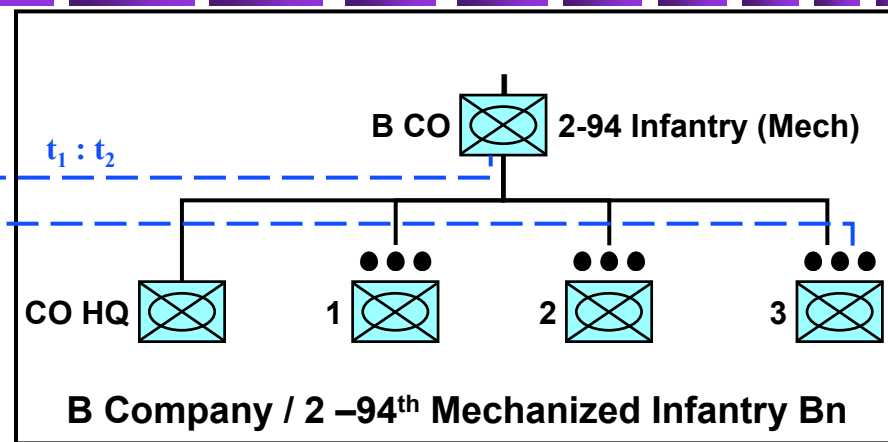
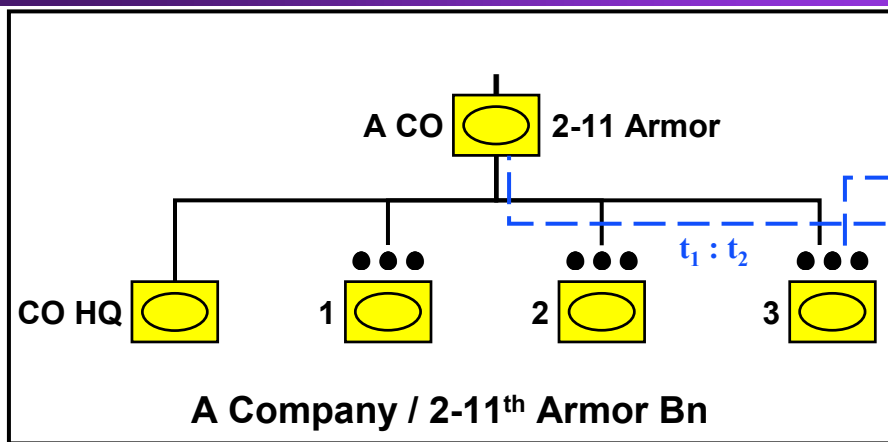
Reconfiguring a Default Force Structure:



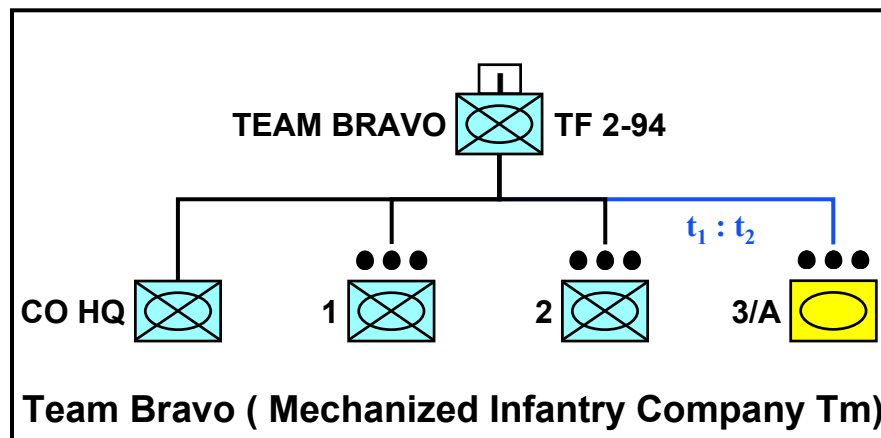
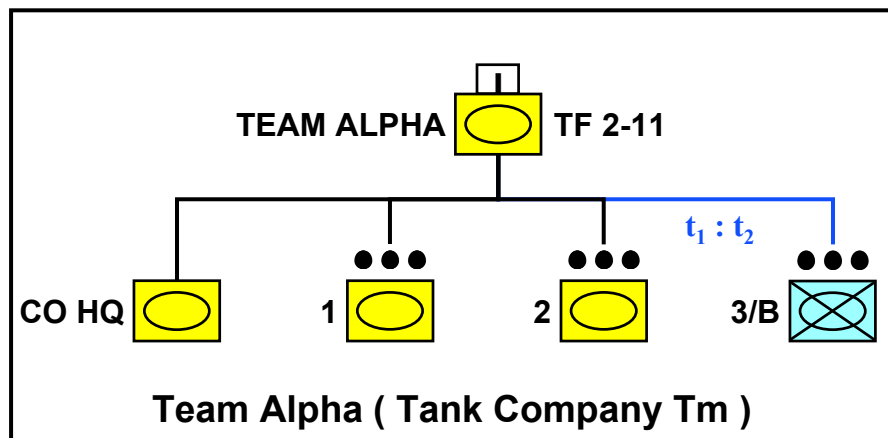
No new nodes were required – only existing organizations were re-linked.
A new graph (Unit) was created with existing organizations.
If the Default Force Structure is Carefully and Richly Populated, Then
Task Organizing Does Not Require Creating any “New” Organizations

Stable Nodes - Dynamic Links.

Stable Nodes - Dynamic Links



Default Links (Assigned / Organic / ADCON) and
New Temporary Links (Attach / OPCON / TACON)



Simplified View of the TASK ORGANIZED Force

Org Type Tree

Organization Tree

Organization: 2nd Battalion, 5th Cavalry

		Name	O...	C...	
0	...	1 2nd Battalion, 5th Ca...	010...	UN	▲
0	...	1 Battalion Headquart...	010...	UN	■
0	...	1 Command Section	010...	UN	
0	...	1 Commander	010...	BL	
0	...	1 Executive Officer	010...	BL	▼

Materiel Type Estab

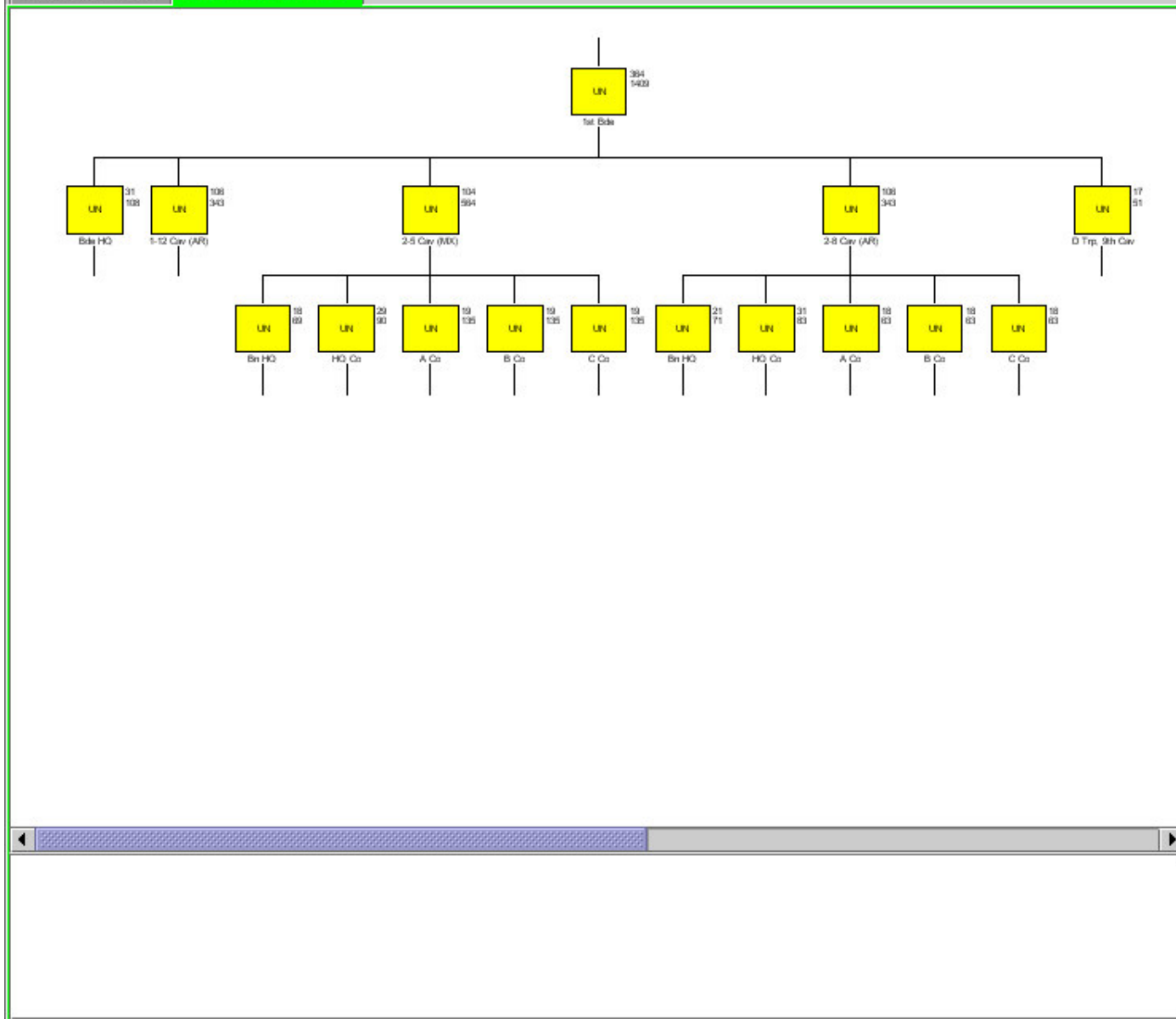
		Qty	Name		
0	...	416	BAYONET MULTIPURPO...		▲
0	...	374	SIGHT: REFLEX COLLIM...		■
0	...	314	ADAPTER RAIL: WEAP...		
0	...	314	RIFLE: 5.56MM M16A4		
0	...	261	AIMING LIGHT INFRARE...		
0	...	251	NIGHT VISION GOGGLE: ...		
0	...	227	MASK CHEMICAL BIOLO...		
0	...	189	MASK CHEMICAL BIOLO...		▼

Primary Person Type Estab

		Qty	Name		
0	...	186	INFANTRY, E-4, SKILL L...		▲
0	...	74	INFANTRY, E-3, SKILL L...		■
0	...	51	INFANTRY, E-5, SKILL L...		
0	...	39	INFANTRY, E-6, SKILL L...		
0	...	27	INFANTRY, E-5, SKILL L...		▼

Additional Person Type Estab

		Qty	Name		
0	...	102	ALSO RADIO OPERATOR		▲
0	...	78	ARMED WITH CARBINE, 5...		■
0	...	40	ARMED WITH PISTOL/REV...		
0	...	33	JAVELIN GUNNERY		
0	...	25	M2 BRADLEY INFANTRY FI...		▼



2nd Battalion, 5th Cavalry is the selected node.

Org Type Tree

Organization Tree

Organization: 2nd Battalion, 5th Cavalry

		Name	O...	C...	
0	...	1 2nd Battalion, 5th Ca...	010...	UN	▲
0	...	1 Battalion Headquart...	010...	UN	■
0	...	1 Command Section	010...	UN	
0	...	1 Commander	010...	BL	
0	...	1 Executive Officer	010...	BL	▼

Materiel Type Estab

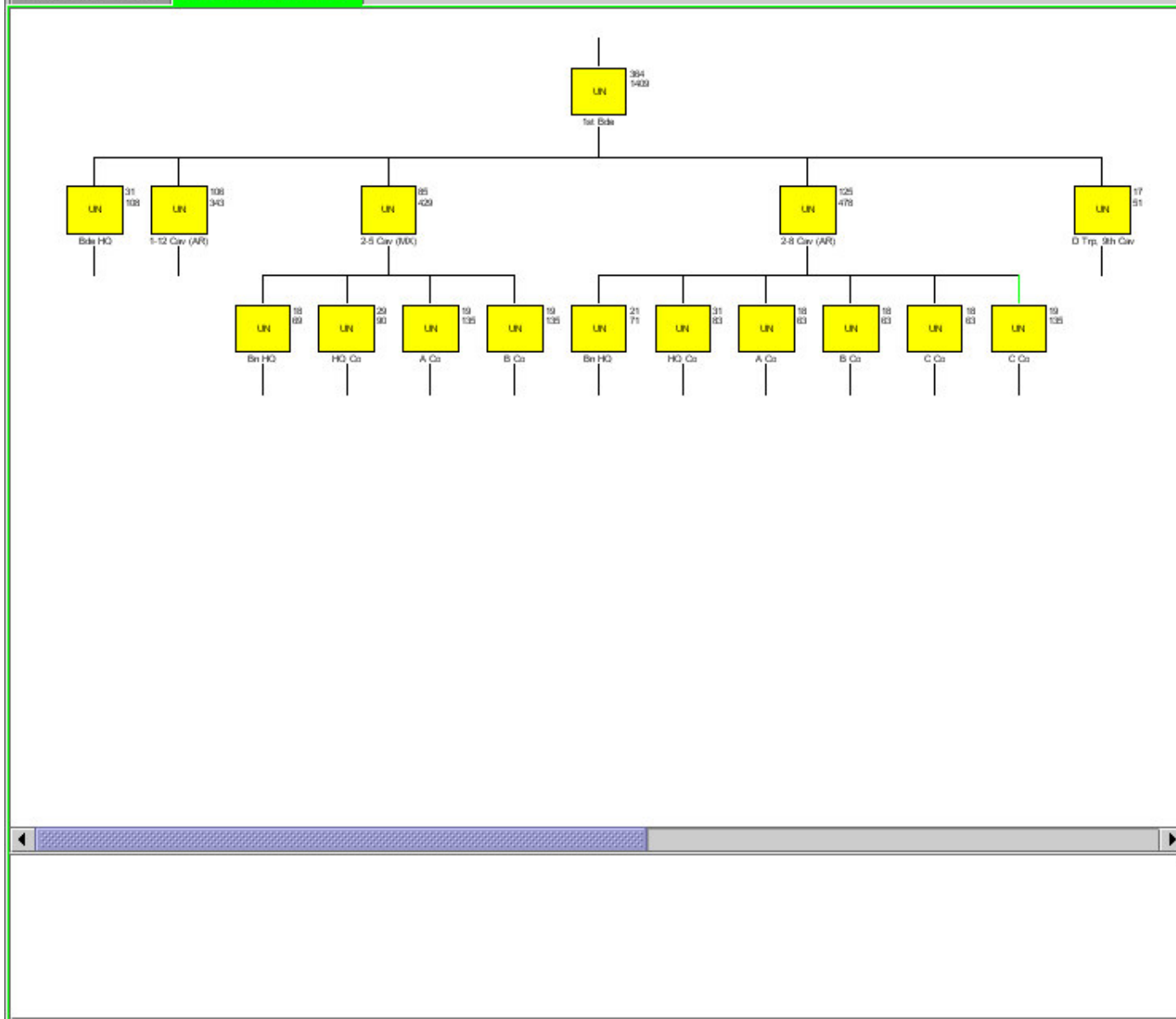
		Qty	Name		
0	...	281	BAYONET MULTIPURPO...		▲
0	...	251	SIGHT: REFLEX COLLIM...		■
0	...	211	ADAPTER RAIL: WEAP...		
0	...	211	RIFLE: 5.56MM M16A4		
0	...	175	AIMING LIGHT INFRARE...		
0	...	169	NIGHT VISION GOGGLE: ...		
0	...	155	MASK CHEMICAL BIOLO...		
0	...	126	MASK CHEMICAL BIOLO...		▼

Primary Person Type Estab

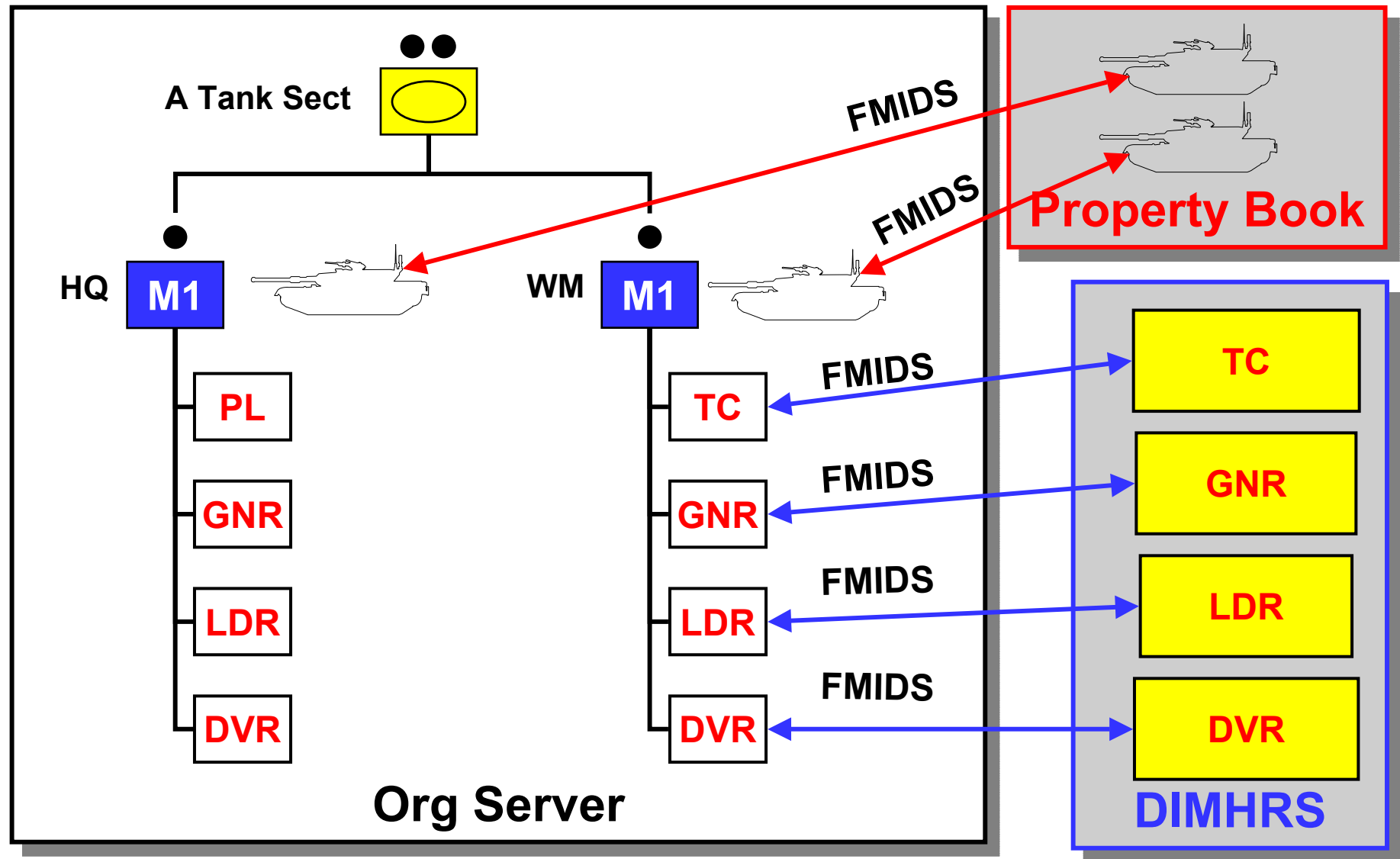
		Qty	Name		
0	...	126	INFANTRY, E-4, SKILL L...		▲
0	...	52	INFANTRY, E-3, SKILL L...		■
0	...	35	INFANTRY, E-5, SKILL L...		
0	...	26	INFANTRY, E-6, SKILL L...		
0	...	20	MEDICAL, HEALTH CAR...		▼

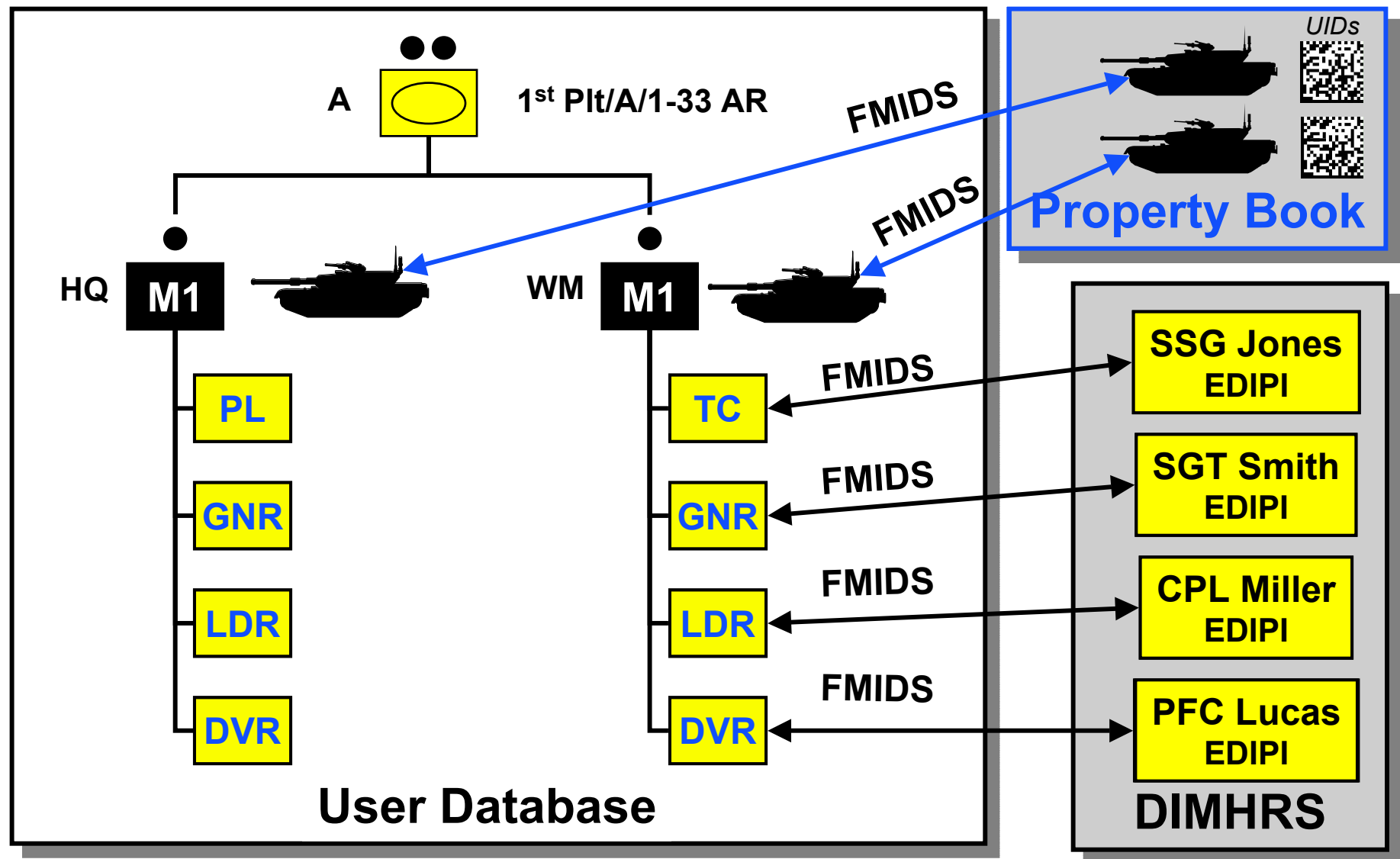
Additional Person Type Estab

		Name		
0	...	81	ALSO RADIO OPERATOR	▲
0	...	66	ARMED WITH CARBINE, 5...	■
0	...	38	ARMED WITH PISTOL/REV...	
0	...	24	JAVELIN GUNNERY	
0	...	21	ALSO LIGHT VEHICLE DRI...	▼

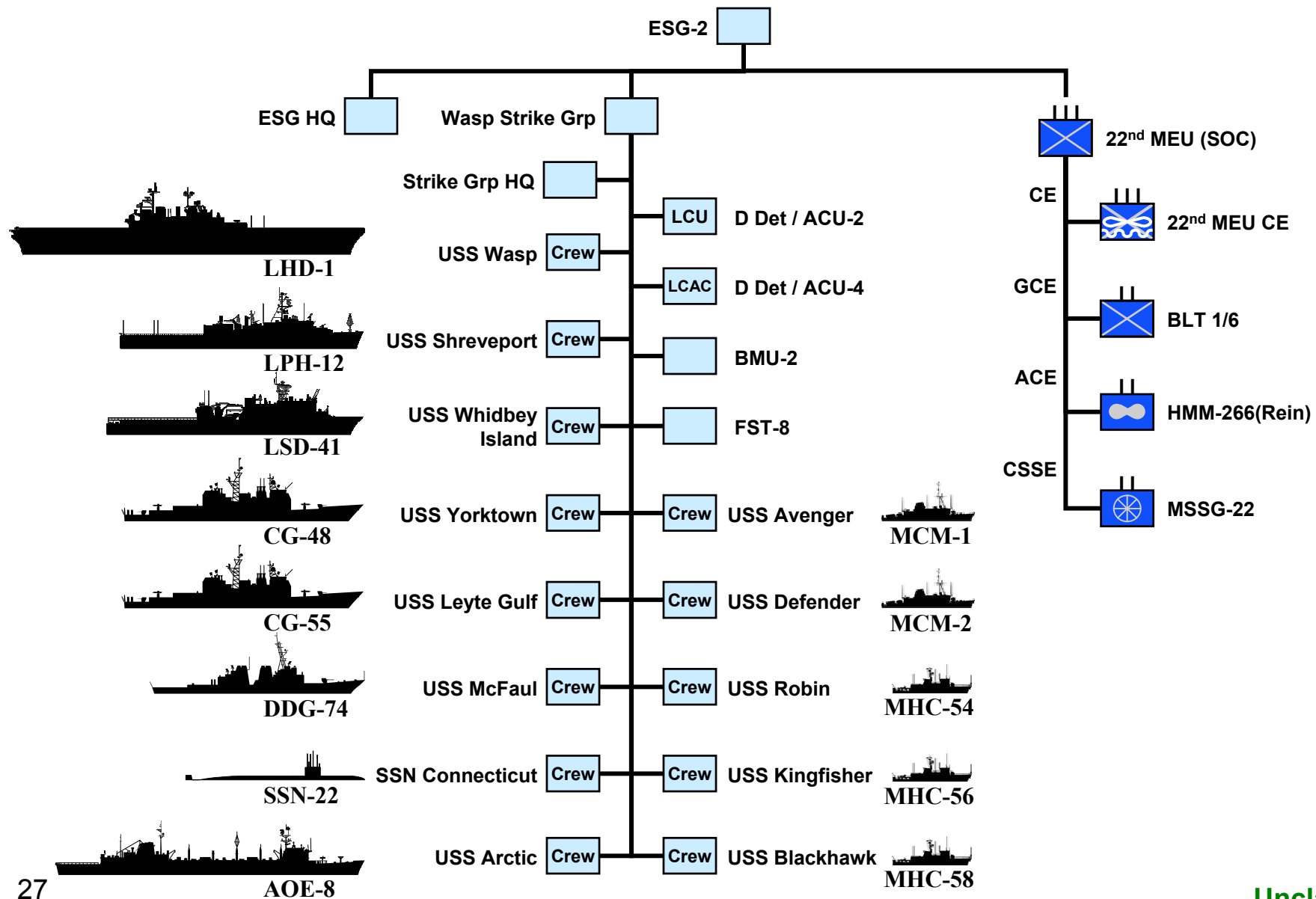


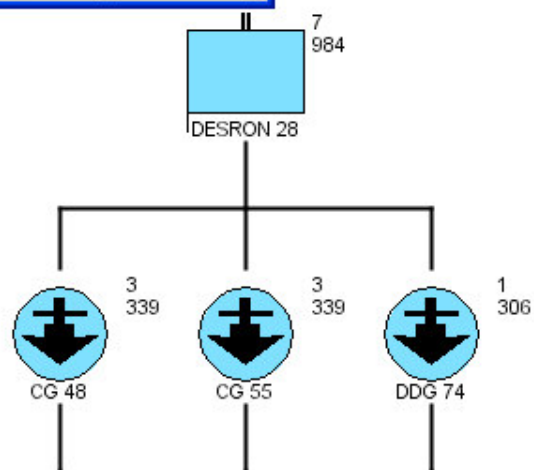
2nd Battalion, 5th Cavalry is the selected node.





Readiness Reporting Via the Operational Links Is Dynamic, Flexible, and Continuous





Org Type or Organization				
E...	...	N...	O...	C...

[illegible]

Primary Person Type Estab				
E...	...	N...	S...	S...

Additional Person Type Establishment				
E...	...	N...	S...	S...

Destroyer Squadron Two Eight is the selected node.

Date/Time Group

Year

Month

Day

2005

7

18

Keep Changes

Cancel

64): armynavychart3 @ 2005-07-18 Mike = 01000050

Show

Help

4
645

DESRON 28

3
339

CG 55

1
306

DDG 74

Org Type or Organization

E... .. N... O... C...

Matériel Type Estab

E... .. N... S... S...

Primary Person Type Estab

E... .. N... S... S...

Additional Person Type Estab

E... .. N... S... S...

Destroyer Squadron Two Eight is the selected node.

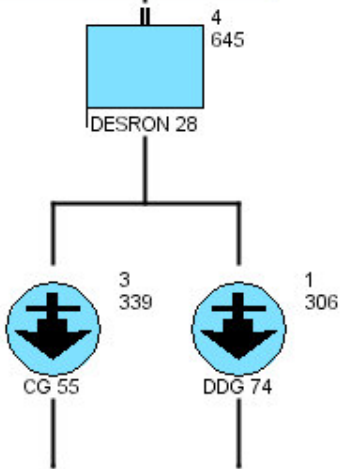
start

Microsoft PowerPoint ...

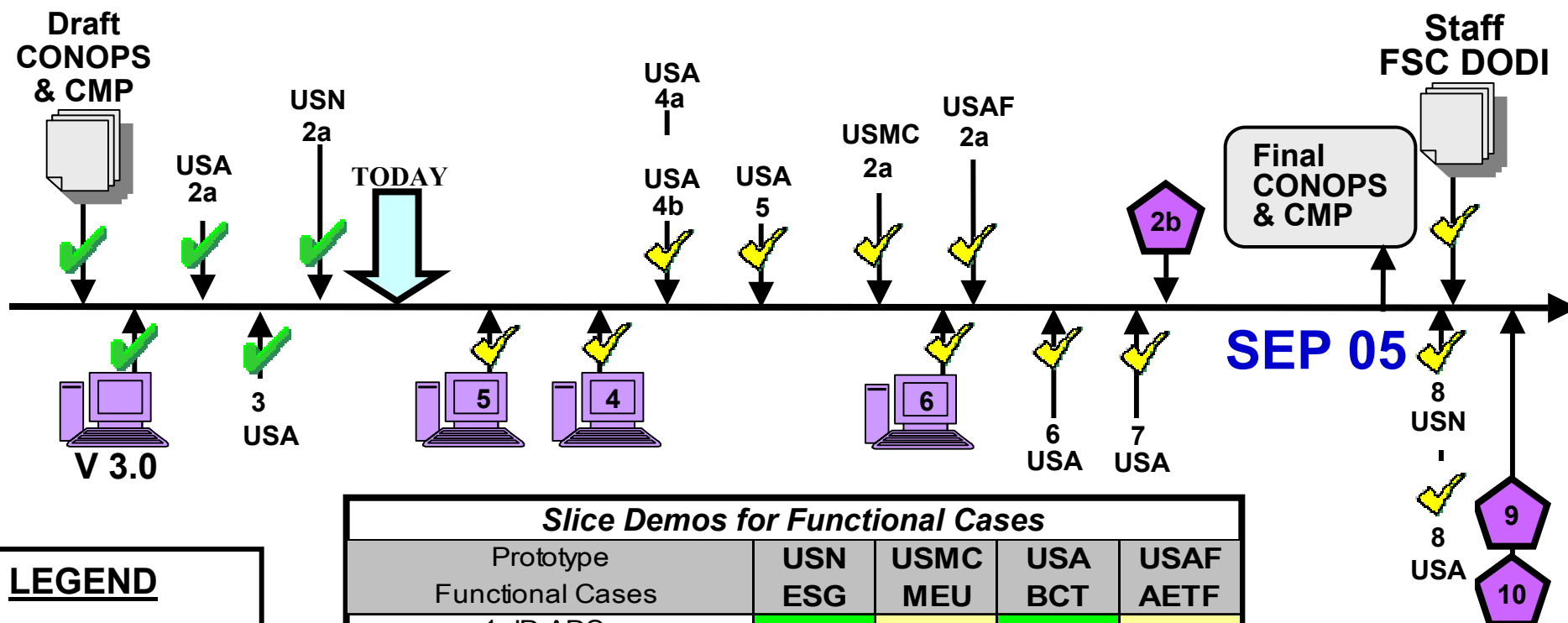
IChart

Organization Chart D...

12:03



GFM DI Prototype Timeline



LEGEND



IChart



On track for completion



Questionable



Problem Area




Completed



All Services

Slice Demos for Functional Cases				
Prototype Functional Cases	USN ESG	USMC MEU	USA BCT	USAF AETF
1: ID ADS	G	Y	G	Y
2a: Populate Org Servers	G	Y	G	Y
2b: Web-enable GFMIEDM	Y	Y	Y	Y
3: Test Scalability			G	
4a: Links	Y	Y	Y	Y
4b: Roles	Y		Y	Y
5: Time Variables	Y	Y	Y	Y
6: Change Management	Y		Y	
7: On-hand links	Y	Y	Y	Y
8: Assignment	Y		Y	
9: Allocation				
10: Apportionment				

- 
- Force Structure is the central integrating theme (i.e., the “foundation”) for Global Force Management
 - The GFM Organizational & Force Structure Construct (OSFC) is used to electronically document force structure data
 - Document a fully-articulated, joint, hierarchal, force structure in a single Authoritative Data Source (i.e. the “Organization Servers”) for use by all systems within the DoD enterprise
 - Identify (using Force Management Identifiers) each piece of force structure authorization data using FMIDS in the GFMIEDM format and an integrated XML schema
 - Disseminate force structure data in a net-centric environment (Web Service enabling)
 - POC is Mike Boller (SAIC ISO Joint Staff, J-8, MASO) – (703) 614-6772, Michael.Boller@js.pentagon.mil



Questions?